The Benefits of a Limb Salvage Program

Craig Walker, MD
Clinical Editor
Interventional Cardiologist
Founder, President, and Medical Director
Cardiovascular Institute of the South
Clinical Professor of Medicine
Tulane University School of Medicine
Louisiana State University School of Medicine

In the May issue of Vascular Disease Management, Sanguily et al discuss the impact of a dedicated limb salvage program at their institution. Although it has been previously well established that dedicated limb salvage programs can drastically improve the care given to patients with critical limb ischemia (CLI) and lower rates of major amputation, this article gives practical tips on how a limb salvage program can be established at any institution that cares for patients with CLI.

Critical components of a limb salvage program include the following:

1) Community screening/awareness programs to evaluate for evidence of PAD;
2) A mechanism for early referral to vascular specialists;
3) Interventional specialists;
4) Skilled surgeons;
5) Podiatrists;
6) Orthopedists;
7) Wound-healing specialists;
8) Diabetic specialists;
9) Neurologists;
10) Established follow-up programs; and
11) Smoking cessation experts.

Programs with practitioners who possess state-of-the-art skills, equipment, and appropriate coordination of care among providers can focus on diagnostic and treatment algorithms that result in earlier diagnosis and treatment, improved treatment of advanced disease, and better long-term follow-up. Limb salvage programs often spur practitioners to educate themselves more thoroughly on current therapies for CLI patients, including not only revascularization and wound healing but risk reduction programs to decrease overall cardiovascular morbidity and mortality and lessen the risk of recurrent ulceration. The dialogue between members of the limb salvage team further serves to educate each of the members and afford patients a consensus opinion on best therapy.

Once a diagnosis of CLI has been established, restoration of adequate blood flow is one of the first and most important steps in achieving limb salvage. Ideal care of patients with advanced CLI, however, requires more than restoration of arterial blood flow. There must be control of infection, debridement to facilitate regeneration of healthy tissue, limited amputation when necessary, pressure unloading, foot cushioning when there is impaired sensation, and treatment of diabetes and neuropathy. In selected cases, hyperbaric oxygen therapy may be needed. Meticulous follow-up is crucial as atherosclerotic progression and lesion recurrence are common and these patients are at far greater risk of morbidity and mortality (predominantly from myocardial infarction and cerebrovascular accident) than the general population. Continuing patient education and aggressive risk-factor modification are paramount.

Major amputation secondary to CLI is associated with morbidity, significant 30-day and 1-year mortality, and markedly increased overall costs as compared to limb salvage. Many patients are discharged to nursing homes and never return home. Quality of life surveys demonstrate poorer overall quality of life.

Appropriate therapy among a multitude of practitioners must be coordinated to achieve ideal rates of limb salvage and reduce cardiovascular morbidity and mortality. Properly functioning limb-salvage programs are valuable community resources that improve care and save overall health care costs.